



# Stormwater Division

## MEMORANDUM

**DATE:** March 9, 2011  
**TO:** John Horne, General Services Manager  
Fran Geissler, Stormwater Director  
**FROM:** Darryl Cook, County Engineer  
**RE:** Floodplain Ordinance Revisions

This information was prepared in response to questions from the Policy Committee meeting held on January 25<sup>th</sup>. The Committee wanted information on how much property would be affected if the Zoning Ordinance in Section 24-596 were changed to require that all new platted lots have a natural, unfilled building site two feet above the 100-year floodplain elevation. The current requirement is that the lots in the *riverine* floodplain (flood elevation greater than 7.5 feet) have a natural, unfilled site one foot above the 100-year elevation.

The major impact of this change would be to the *tidal* portions of the floodplain – those areas with a 100-year elevation of 7.5 feet. I did an analysis using information from the GIS system evaluating properties where the 10 foot contour extended beyond the RPA buffer and wetland areas as identified on the National Wetland Inventory (NWI) maps. The 10-foot contour was selected as the closest approximation of elevation 9.5 feet. This identified areas where the new elevation requirement presented an additional constraint on development of various properties. The following table presents the results of the analysis.

Property Analyzed	Area of Property (ac)	Impacted Area (ac)	% of Property Impacted
Neck-O-Land Road Area			
Gilley Farm	172.0	74.7	43.4
Peleg's Point	71.8	10.4	13.9
Jamestown Road			
2000 Jamestown Road	59.5	2.3	3.9
Gospel Spreading Farm	795.2	82.3	10.3
Chickahominy River			
2220 Bush Neck Road	722.3	106.1	14.7
6575 Menzels Road	118.9	29.7	25.0
6650 Menzels Road	592.7	55.9	9.4
1701 Forge Road	211.7	7.9	3.7
701/704 Arlington Island Rd	39.1	15.4	39.4
Totals	2783.2	384.7	13.8

The analysis should be considered approximate as all the information used is at a planning level – none of the information has been confirmed in the field and the 10-foot contour slightly overestimates the impacted area. However, it was a comprehensive look at all the properties that would be potentially affected in the *tidal* area. The analysis does show that the impact could be significant. The greatest impact to property with development potential is along Neck-O- Land Road. The Gilley property is the most affected property as a percentage of its developable property. The Gospel Spreading Farm has the most acreage affected.

Based on this analysis, I would not recommend that the requirement for a natural, unfilled building site be applied in the tidal portion of the floodplain. If the requirement had been in place at the time, most of Gatehouse Farms, Powhatan Shores, Chickahominy Haven, about one-half of Jamestown 1607 and one-third of Landfall could not have built. However, many of these projects have significant flooding and drainage problems resulting in substandard living conditions and safety issues during high water events. Many of the structures experience foundation and crawl space flooding even when the houses are properly elevated. Also, during high water events, access can be restricted for both residents and emergency service personnel resulting in safety problems. Some of these problems could have been overcome with properly placed fill, and better grading and drainage designs. Therefore, in lieu of requiring that all newly platted lots have a natural, unfilled building site two feet above the base flood elevation, the following requirement is recommended to improve conditions related to flooding and drainage on those lots by allowing fill to achieve the two foot increase above 100-year flood elevation required:

*All lots created after \_\_\_\_\_ shall contain an adequate building site two feet above the base flood elevation. For lots in a riverine portion of a floodplain district the building site must be a natural, unfilled area. For lots in a tidal portion of a floodplain district, t, the building site can be either a natural, unfilled area or filled above the base flood elevation to achieve the proper elevation. Filling of the 100 year floodplain below the base flood elevation to create an adequate building site in a tidal portion of a floodplain district shall not be permitted. The feasibility of satisfying this requirement in the tidal floodplain may be limited by jurisdictional wetlands, the 100-year floodplain, site drainage patterns, potential impacts to Chesapeake Bay Preservation Areas and other physical planning constraints.*

This reduces potential drainage and flooding problems in these low lying areas without strictly banning their development or violating the intent of the floodplain provisions.

Concerning increasing the elevation of the natural, unfilled building site in the *riverine* portion of the floodplain along Powhatan Creek, I did the same analysis. I looked for impacts to properties beyond the RPA and the wetlands. The majority of the floodplain that is not within either the RPA or wetlands is already developed. There were only three properties that were impacted – Warhill Inn, 4311 John Tyler Highway, and 1821 Jamestown Road (the parcel to the rear of Chanco's Grant). In all these cases, the impacted portions of the properties all consisted of a sloping area so the increase would have no impact on the ability to develop these properties. So I would recommend that the elevation for a natural, unfilled building site be increased from one foot to two feet in the riverine areas.